BISS Biodiversity Information Science and Standards

Biodiversity Information Science and Standards 7: e112147
doi: 10.3897/biss.7.112147

OPEN ACCESS

Conference Abstract

EMODnet Biology: Unlocking European marine biodiversity data

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Received: 04 Sep 2023 | Published: 08 Sep 2023

Citation: Perez Perez R, Beja J, Vandepitte L, Lipizer M, Weigel B, Vanhoorne B (2023) EMODnet Biology: Unlocking European marine biodiversity data. Biodiversity Information Science and Standards 7: e112147. https://doi.org/10.3897/biss.7.112147

Abstract

EMODnet Biology (hosted and coordinated by the Flanders Marine Institute (VLIZ)) is one of the seven themes within the European Marine Observation and Data network (EMODnet). The EMODnet Biology consortium aims to facilitate the accessibility and usage of marine biodiversity data. With the principle of "collect once, use many times" at its core, EMODnet Biology fosters collaboration across various sectors, including research, policy-making, industry, and individual citizens, to enhance knowledge sharing and inform decision-making.

EMODnet Biology focuses on providing free and open access to comprehensive historical and recent data on the occurrence of marine species and their traits in all European regional seas. It achieves this through partnerships and collaboration with diverse international initiatives, such as the World Register of Marine Species (WoRMS), Marine Regions and the European node of the Ocean Biodiversity Information System (EurOBIS) among others. By promoting the usage of the Darwin Core Standard (Wieczorek et al. 2012), EMODnet Biology fosters data interoperability and ensures seamless integration with wider networks such as the Global Biodiversity Information Facility (GBIF) and the Ocean Biodiversity Information System (OBIS), serving as a significant data provider of the latter, as it is responsible for most of its data generated in Europe.

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Since its inception, EMODnet Biology has undertaken actions covering various areas, including

- providing access to marine biological data with spatio-temporal, taxonomic, environmental- and sampling-related information among others;
- developing an exhaustive data quality control tool based on the Darwin Core standard, the British Oceanographic Data Centre and Natural Environment Research Council Vocabulary Server (BODC NVS2) parameters and other controlled vocabularies used;
- creating and providing training courses to guide data providers;
- performing gap analyses to identify data quality and coverage shortcomings;
- creating and publishing marine biological distribution maps for various species or species groups; and
- interacting with international and European initiatives, projects and organizations.

Furthermore, EMODnet Biology contributes to the overall EMODnet initiative, which covers multidisciplinary data and products. Thanks to the use of standard protocols and tools across disciplines, EMODnet Biology products can contribute to multidisciplinary analysis of pressures and impacts on key marine species and habitats, and, lastly, support a better management and planning of the maritime space.

In conclusion, EMODnet Biology plays a pivotal role in biodiversity informatics by providing users with a wealth of accessible and reusable marine biodiversity data and products. Its collaborative approach, extensive partnerships, and adherence to the FAIR (Findable, Accessible, Interoperable, Reusable) data principles (Wilkinson et al. 2016) as well as to the Infrastructure for Spatial Information in Europe (INSPIRE) metadata technical guidelines (European Commission Joint Research Centre 2013) and the Open Geospatial Consortium (OGC) standards make it a valuable resource for advancing knowledge, informing policies, and supporting sustainable management of marine ecosystems.

Keywords

biodiversity standards, data access, data portal, open data

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Presented at

TDWG 2023

Acknowledgements

The European Marine Observation and Data Network (EMODnet) is financed by the European Union under Regulation (EU) No 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund.

This project and the availability of all this data would not be possible without the dedicated contributions of our many past and current EMODnet Biology Consortium members and data partners.

Conflicts of interest

The authors have declared that no competing interests exist.

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